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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,870	05/23/2006	Haifeng Hu	N338.312-0003	7306
164 7590 09/21/2007 KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			EXAMINER YUN, JURIE	
			ART UNIT 2882	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,870

Applicant(s)

HU ET AL.

Examiner

Jurie Yun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9 and 11-18 is/are rejected.
- 7) ☒ Claim(s) 19-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 8/20/07 has been entered.

Response to Arguments

2. The indicated allowability of claims 10-14 is withdrawn after further consideration.

Claim Objections

3. Claim 9 recites the limitation "the X-ray" in line 16. There is insufficient antecedent basis for this limitation in the claim. It is suggested to recite, in line 2, "an X-ray radiation source" or "an X-ray source."

4. Claim 9 is objected to because of the following informalities: there appears to be a typo in the recitation: "wherein an auxiliary bracket of the vertical upright arm is provided on the upper surface of said chassis corresponding to an end of the rotatable deck when the vertical upright arm is supported parallel to the horizontal cross arm." Specifically, the specification, at pages 5-6, describes the auxiliary bracket is located at one end of the chassis, as opposed to at an end of the rotatable deck. This can also clearly be seen in Figure 1, where the auxiliary bracket, 5, is located at the end of the chassis, 1. Also, the specification does not teach the auxiliary bracket is part of the vertical upright arm ("an auxiliary bracket of the vertical upright arm is provided..."). Appropriate correction is required.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "vertical lifting arm"

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of claim 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 9, 11-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. (USPN 6,920,197 B2) in view of Eiler (USPN 6,058,158) and Lowman (USPN 6,763,635 B1).

8. With respect to claim 9, Kang et al. disclose a combined mobile container inspection system, comprising: a radiation source (located within 6); a chassis (2); a rotatable deck (5) provided at an end of an upper surface of said chassis and being rotatable with respect to said chassis, provided with a parallelogram bracket (8) formed by a hingedly-connected four-bar linkage mechanism, wherein a cross link of the parallelogram bracket extends to form a horizontal cross arm (9) with detectors, an end of said horizontal cross arm being connected with a vertical upright arm (10) that has detectors and can be vertical or parallel to said horizontal cross arm, wherein an auxiliary bracket of the vertical upright arm is provided on the upper surface of said chassis corresponding to an end of the rotatable deck when the vertical upright arm is supported parallel to the horizontal cross arm - the box shaped cabin, 3, is functionally equivalent to the auxiliary bracket, including the cabin being provided on the upper surface of the chassis corresponding to an end of the chassis when the vertical upright arm is supported parallel to the horizontal cross arm. Kang et al. disclose all of the elements except for a sliding deck provided at the rear end of the rotatable deck and movable upwardly and downwardly, said sliding deck is provided, in turn, with the radiation source, the X-ray generated therefrom being in the face of the detectors provided in the horizontal cross arm and vertical upright arm, with a calibrator, and with a collimator.

Eiler discloses an x-ray examination device with x-ray equipment support (22) that supports the radiation source (13) that can be raised and lowered in the directions of the double arrows shown in Figure 5 (column 5, lines 55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kang et al. to have the third box-shaped cabin (6), which contains the radiation source, slidable up and down, to enable positioning of the x-ray source, as taught by Eiler.

Kang et al. and Eiler are silent as to a calibrator and collimator, but these are well known devices to use with an X-ray source for testing and directing purposes. Lowman discloses use of a collimator (113) for directing the X-rays emitted from the emitter (112). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Kang et al. to include a calibrator and a collimator with the radiation source, to provide for testing and directing of the emitted x-ray beam.

9. With respect to claim 11, Kang et al. disclose a middle part of the upper surface of the chassis (2) is provided with a device cabin (3), in which an image acquisition module, an operation inspection device and a modulator cabin are provided (column 5, lines 37-40).

10. With respect to claim 12, Kang et al. as modified by Eiler and Lowman disclose the rotatable deck on the upper surface of the chassis rotates up to 90 degrees when the container is inspected, and a gantry frame is comprised of the parallelogram bracket, horizontal cross arm and vertical upright arm, the sliding deck is moved downwardly which lowers a target point of rays irradiated from the radiation source, calibrator and collimator to enlarge the scanning range, the control signal is output from

a remote control device, driving the gantry frame on the upper surface of the chassis to move parallel across the inspected container, the sector formed of the X ray irradiated from the radiation source penetrates through the inspected container at a low position and is converted into electrical signal input into the image acquisition module in the device cabin after the sector is received by the detectors in the horizontal cross arm and vertical upright arm, the image signal is transferred from the image acquisition module to the operation inspection device and the inspection result is displayed by a display device of the remote control device (column 4, lines 33-64).

11. With respect to claim 13, Kang et al. disclose the parallelogram bracket (8) comprises a vertical lifting arm which is used to raise the horizontal cross arm (9) and form the gantry frame (shown in Fig. 2) with the horizontal cross arm and the vertical upright arm (10).

12. With respect to claim 14, Kang et al. disclose the angle between the chassis and the rotatable deck is adjustable up to a maximum angle that is less than 90 degrees (column 4, lines 33-34).

13. With respect to claim 15, Kang et al. disclose wheels (see Fig. 1A) provided with a driving device (4) are mounted on a lower surface of said chassis (2).

14. With respect to claim 17, Kang et al. disclose said driving device has a hydraulic pressure motor which is fixed to the lower surface of the chassis, an output shaft of the hydraulic pressure motor being connected with the wheels directly provided on a rail or directly contacting a ground surface (column 4, lines 19-29).

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15. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. (USPN 6,920,197 B2) in view of Eiler (USPN 6,058,158) and Lowman (USPN 6,763,635 B1) as applied to claims 9 and 15 above, and further in view of Franke (USPN 3,565,218).

16. With respect to claim 16, Kang et al. in view of Eiler and Lowman do not disclose said driving device comprises a motor and a decelerator which are fixed with the lower surface of the chassis, and a motor shaft is connected with the decelerator, an output shaft of which is connected with the wheels directly provided on a rail or directly contacting a ground surface. Franke discloses this (column 3, line 65 - column 4, line 52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kang et al./Eiler/Lowman to have a motor and a decelerator which are fixed with the lower surface of the chassis, and a motor shaft is connected with the decelerator, an output shaft of which is connected with the wheels directly provided on a rail or directly contacting a ground surface, to eliminate relative motion and to provide a minimal amount of power losses due to friction in the decelerator, as taught by Franke.

17. With respect to claim 18, Kang et al. disclose said radiation source is a linear electron accelerator or a radioactive isotope (column 5, lines 10-12).

Allowable Subject Matter

18. Claims 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose a combined mobile container inspection system, comprising a sliding deck, wherein said sliding deck is comprised, in two parts, of a fixed frame and a sliding frame provided with the radiation source, calibrator and collimator, the fixed frame is fixed to the rotatable deck, both ends of the inner side of the fixed frame are provided with sliding rail, the sliding frame is embeddedly provided on the sliding rail of the fixed frame, and a driving mechanism, which moves the sliding frame upwardly and downwardly, is connected between the fixed frame and the sliding frame, as claimed in claim 19. Claims 20 and 21 are allowable due to their dependency on claim 19.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 571 272-2497.

The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Julie Yun
Examiner
Art Unit 2882

September 13, 2007